

## CLAIMS:

- 5           1.    An aqueous hair dye composition comprising a mixture of:
- (A)   a non-nitrogenous chelating agent selected from the group  
              consisting of polyphosphates, phosphonates, hydroxycarboxylates,  
              polyacrylates, zeolites and mixtures thereof;
- 10           (B)   an oxidative dye primary intermediate; and
- (C)   an oxidative dye coupler.
2.    A composition in accordance with claim 1, wherein the non-nitrogenous  
              chelating agent is a chelating agent that lacks an aminocarboxylic acid  
15               group or an aminophosphonic acid group.
3.    A composition in accordance with claim 2, wherein the chelating agent is  
              a polyphosphate.
- 20           4.    A composition in accordance with claim 2, wherein the chelating agent is  
              a phosphonate.
- 25           5.    A composition in accordance with claim 2, wherein the chelating agent is  
              a hydroxycarboxylate.
- 30           6.    A composition in accordance with claim 2, wherein the chelating agent is  
              a polyacrylate.

7. A composition in accordance with claim 2, wherein the chelating agent is a zeolite.

8. A composition in accordance with claim 1, wherein the non-nitrogenous chelating agent is present at from about 0.1% to about 10%.

9. A composition in accordance with claim 7, which further comprises from about 0.01% to about 10% of amino containing chelating agents.

10. A hair dye composition according to claim 1 comprising:
- (A) about 0.1 to about 3% of a non-amino chelating agent selected from the group consisting of polyphosphates, phosphonates, hydroxycarboxylates, polyacrylates, zeolites and mixtures thereof;
  - (B) about 0.1 to about 5% oxidative dye primary intermediate; and
  - (C) about 0.1 to about 5% oxidative dye coupler; and
  - (D) water

11. A composition according to claim 1 comprising a mixture of:
- (A) about 0.01 to about 3% of a non-nitrogenous chelating agent selected from the group consisting of polyphosphates, phosphonates, hydroxycarboxylates, polyacrylates, zeolites and mixtures thereof;
  - (B) about 0.01 to about 5% oxidative dye primary intermediate; and
  - (C) about 0.01 to about 5% oxidative dye coupler; and
  - (D) water.

- 5
12. A hair dye composition according to claim 1 which further comprises at least a solvent selected from the group consisting of propylene glycol, isopropylene glycol and isopropanol.
- 10
13. A hair dye composition according to claim 1 which further comprises a conditioner.
- 15
14. A hair dye composition according to claim 1 which further comprises a humectant.
- 20
15. A hair dye composition according to claim 1 wherein said oxidative dye primary intermediate is selected from the group consisting of phenol aniline derivatives, pyridine derivatives, pyrimidine derivatives and mixtures thereof.
- 25
16. A hair dye composition according to claim 1 wherein said oxidative dye couplers is selected from the group consisting of phenol and aniline, pyridine, indole, indoline, pyrazone derivatives and mixtures thereof.
17. A method for coloring hair which comprises contacting said hair with a composition according to claim 1.